

ABSTRACT OF THE DISCLOSURE

The radiation three-dimensional position detector of the present invention comprises a scintillator unit (10), a light receiving element (20) and an operation section (30). The scintillator unit is disposed on the light incident plane of the light receiving element, wherein the scintillator unit is comprised of four layers of scintillator arrays, each layer being composed of scintillator cells arrayed in 8 row - 8 column matrix. The scintillator cell produces scintillation light corresponding to the radiation absorbed thereby. The optical characteristic of a partition material for separating neighboring scintillator cells, which faces at least one same side face is different between a scintillator cell  $C_{k1,m,n}$  included in one scintillator array layer (k1-th layer) and a scintillator cell  $C_{k2,m,n}$  included in the other scintillator array layer (k2-th layer).